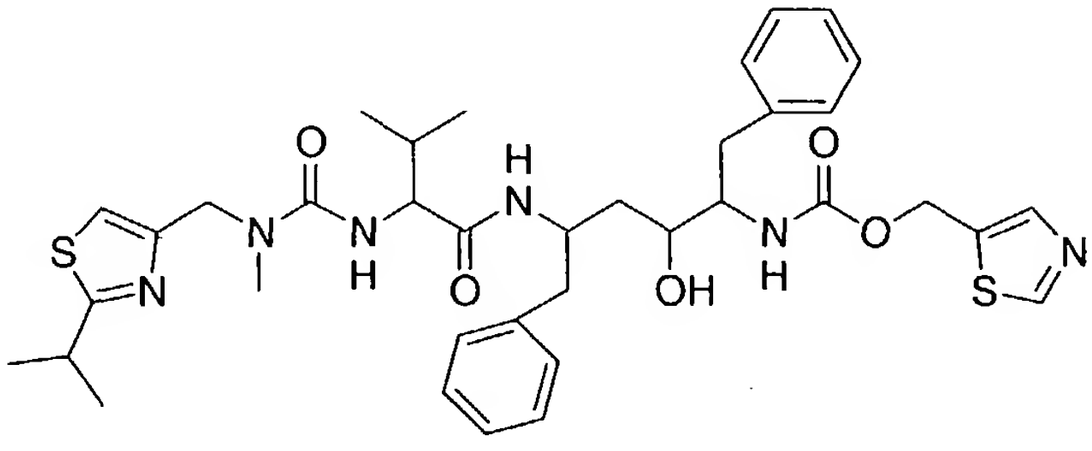
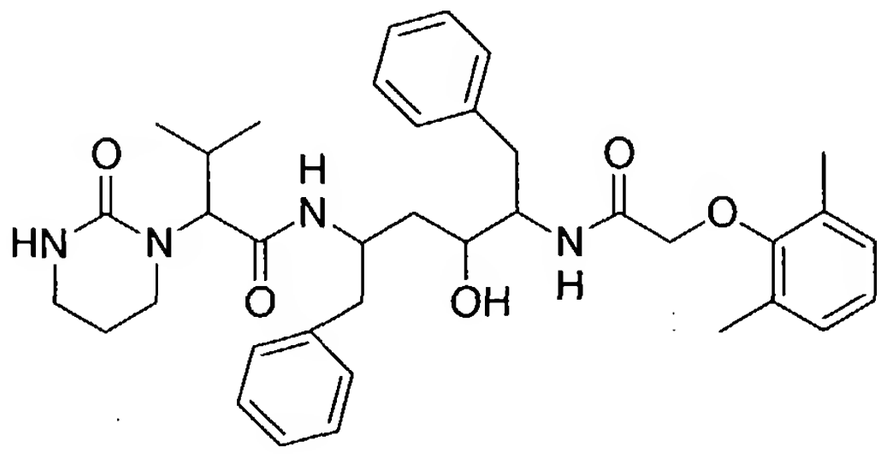
1. A method for treating an HIV-negative patient who has cancer, the method comprising administering to the patient a therapeutically effective amount of a composition comprising

(a) a compound of Formula I



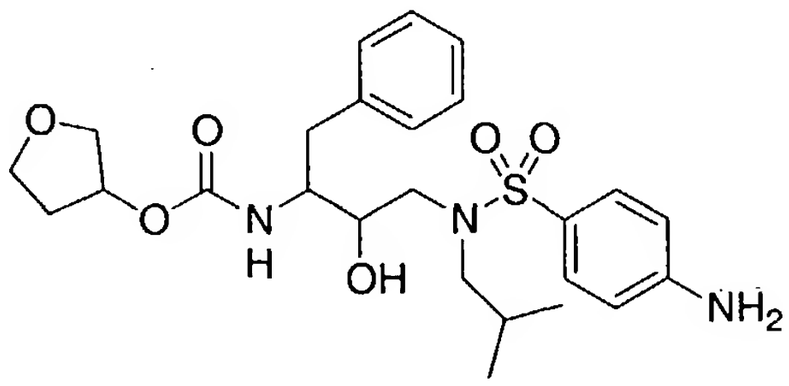
Formula I

(b) a compound of Formula II



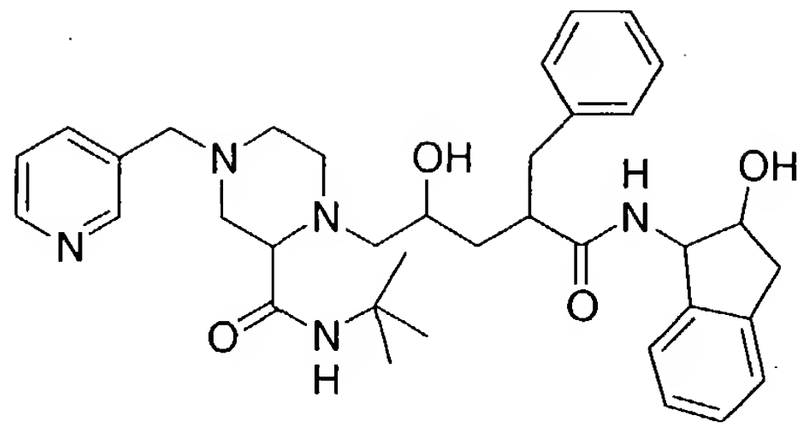
Formula II

(c) a compound of Formula III



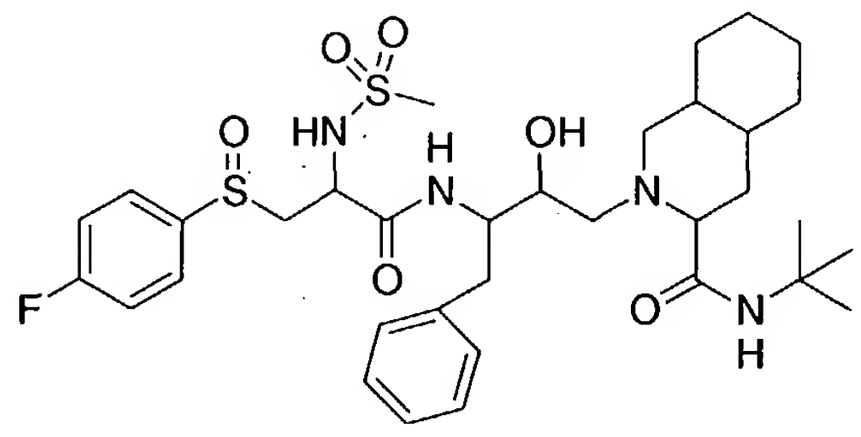
Formula III

(d) a compound of Formula IV



Formula IV

(e) a compound of formula V



Formula V

(f) a pharmaceutically acceptable salt of a compound of Formula I, Formula II, Formula III, Formula IV, or Formula V;

(g) a prodrug of a compound of Formula I, Formula II, Formula III, Formula IV, or Formula V.

2. The method of claim 1, wherein the composition comprises a compound of Formula I, a pharmaceutically acceptable salt of a compound of Formula I, or a prodrug of a compound of Formula I.

3. The method of claim 2, wherein the composition excludes a compound of Formula II, excludes a compound of Formula III, excludes a compound of Formula IV, excludes a compound of formula V, and excludes pharmaceutically acceptable salts or prodrugs of Formula II , Formula III, Formula IV, or Formula V.

4. The method of claim 1, wherein the composition comprises a compound of Formula I or a pharmaceutically acceptable salt or prodrug thereof and a compound of Formula II or a pharmaceutically acceptable salt or prodrug thereof.

5. The method of claim 4, wherein the amount, by weight, of the compound of Formula II or a pharmaceutically acceptable salt or prodrug thereof is approximately four times greater than the amount, by weight, of the compound of Formula I or a pharmaceutically acceptable salt or prodrug thereof.

6. The method of claim 1, wherein the composition comprises a compound of Formula III, a pharmaceutically acceptable salt of a compound of Formula III, or a prodrug of a compound of Formula III.

7. The method of claim 6, wherein the composition excludes a compound of Formula I, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula II, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula IV, or a pharmaceutically acceptable salt or prodrug thereof, and excludes a compound of Formula V, or a pharmaceutically acceptable salt or prodrug thereof.

8. The method of claim 1, wherein the composition comprises a compound of Formula IV, a pharmaceutically acceptable salt of a compound of Formula IV or a prodrug of a compound of Formula IV.

9. The method of claim 8, wherein the composition excludes a compound of Formula I, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula II, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula III, or a pharmaceutically acceptable salt or prodrug thereof, and excludes a compound of Formula V, or a pharmaceutically acceptable salt or prodrug thereof.

10. The method of claim 1, wherein the composition comprises a compound of Formula V, a pharmaceutically acceptable salt of a compound of Formula V or a prodrug of a compound of Formula V.

11. The method of claim 10, wherein the composition excludes a compound of Formula I, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula II, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula III, or a pharmaceutically acceptable salt or prodrug thereof, and excludes a compound of Formula IV, or a pharmaceutically acceptable salt or prodrug thereof.

12. The method of claim 1, wherein the composition further comprises a carrier, excipient, or diluent.

13. The method of claim 12, wherein the carrier, excipient, or diluent is a physiologically acceptable saline solution.

14. The method of claim 1, wherein the composition further comprises a pain relief agent, an antinausea agent, or an anticancer agent other than ritonavir, lopinavir, amprenavir, indinavir or saquinavir.

15. The method of claim 14, wherein the pain relief agent is a nonsteroidal anti-inflammatory drug (NSAID).

16. The method of claim 14, wherein the anticancer agent is paclitaxel, docetaxel, doxorubicin, liposomal doxorubicin, daunorubicin, epirubicin, fluorouracil, melphalan, cisplatin, carboplatin, cyclophosphamide, mitomycin-c, methotrexate, mitoxantrone, vinblastine, vincristine, vinorelbine, doxycycline, ifosfamide, teniposide, etoposide, bleomycin, leucovorin, cytarabine, dactinomycin, interferon alpha, streptozocin, prednisolone, interleukin-2 (IL-2), fludarabine, rituximab, campath (anti-CD 52), 2-CDA, anastrozole (Arinidex), tamoxifen, fulvestrant, reloxifine, letrozole, toremifene, flutamide, leuprolide, or procarbazine.

17. The method of claim 16, wherein the anticancer agent is paclitaxel or docetaxel.

18. The method of claim 16, wherein the anticancer agent is cisplatin or irinotecan.

19. The method of claim 1, wherein the composition further comprises an inhibitor of P-glycoprotein.

20. The method of claim19, wherein the inhibitor of P-glycoprotein is Ketoconazole.

21. The method of claim 1, wherein the composition further comprises an inhibitor of an EGF receptor or of erbB2.

22. The method of claim 21, wherein the inhibitor is an antibody that specifically binds and antagonizes an EGF receptor or erbB2.

23. The method of claim 22, wherein the antibody is a humanized antibody.

24. The method of claim 21, wherein the inhibitor is antibody C225, antibody ADX-EGF, Iressa ZD1839, Tarceva OSI774, CI-1033, GW 572016, or EKB569.

25. The method of claim 1, wherein the composition further comprises a proteasome inhibitor.

26. The method of claim 25, wherein the proteasome inhibitor is bortezomib.

27. The method of claim 1, wherein the patient has a pancreatic cancer, a lung cancer, a breast cancer, a head and neck cancer, a prostate cancer, a colon cancer, a stomach cancer, an ovarian cancer, or a brain cancer.

28. The method of claim 1, wherein the patient has a cancer associated with resistance to known anticancer drug regimes.

29. The method of claim 28, wherein the cancer comprises cells that express a P-glycoprotein (MDR), a multidrug resistance-associated protein (MRP), or a breast cancer resistance protein (BCRP).

30. A method of predicting whether a patient who has cancer will respond to treatment with a composition comprising a calpain inhibitor, the method comprising:

(a) providing cells from a cancer cell line that is a model of the type of cancer the patient has and

(b) determining

(i) the level of expression or activity of m-calpain or

(ii) the level of expression or activity of an EGF receptor

in cells of the cell line, wherein a level m-calpain or of an EGF receptor that is higher than the level of expression or activity of m-calpain or an EGF receptor, respectively, in a reference cell, or population of reference cells, indicates that the patient is less likely to respond positively if treated with a composition comprising a calpain inhibitor.

31. A method of predicting whether a patient who has cancer will respond to treatment with a composition comprising a calpain inhibitor, the method comprising:

(a) providing cancerous cells from the patient and

(b) determining

(i) the level of expression or activity of m-calpain or

(ii) the level of expression or activity of an EGF receptor

in the cancerous cells from the patient, wherein a level that is higher than the level of expression or activity of m-calpain or an EGF receptor, respectively, in a reference cell, or population of reference cells, indicates that the patient is less likely to respond positively if treated with a composition comprising a calpain inhibitor.

32. A method of selecting a treatment regime for a patient who has cancer, the method comprising:

(a) providing cells from a cancer cell line that is a model of the type of cancer the patient has or providing cancerous cells from the patient

(b) exposing the cells from the cell line or the cancerous cells from the patient to at least two different compositions comprising a calpain inhibitor and

(c) determining which, if any, of the at least two different compositions is most effective in killing the cells from the cell line or the cancerous cells from the patient, reducing the motility of those cells, or reducing the rate at which they grow or proliferate.

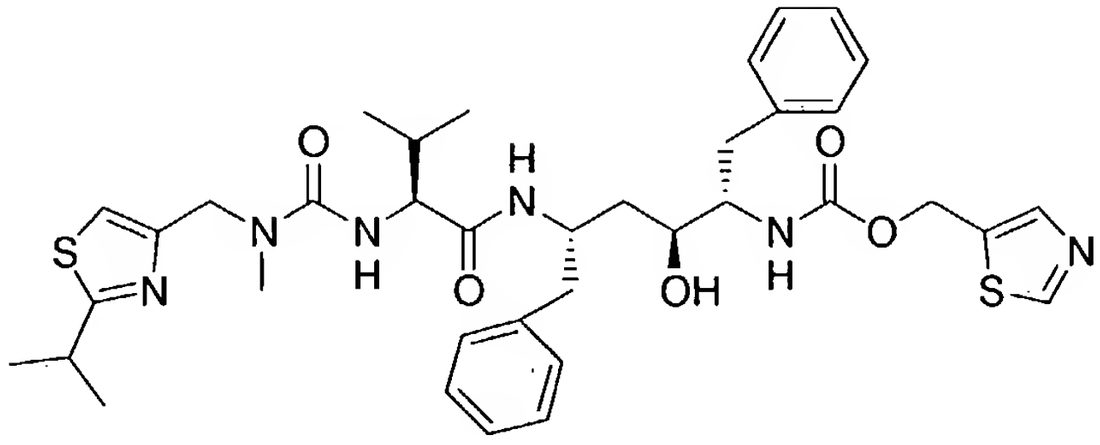
33. The method of claim 32, wherein the compositions are identical except in the concentrations of the components they contain.

34. The method of claim 32, wherein step (b) is carried out *in vivo*.

35. The method of claim 32, wherein step (b) is carried out in cell culture.

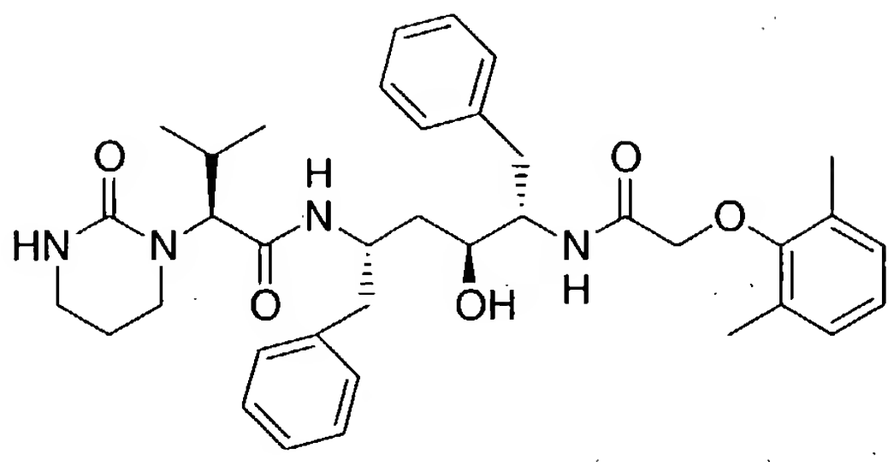
36. The method of claim 30, wherein the composition comprises

(a) a compound of Formula I



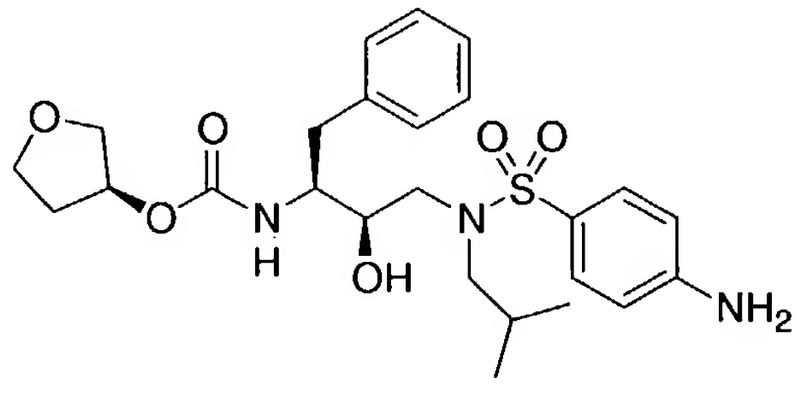
Formula I

(b) a compound of Formula II



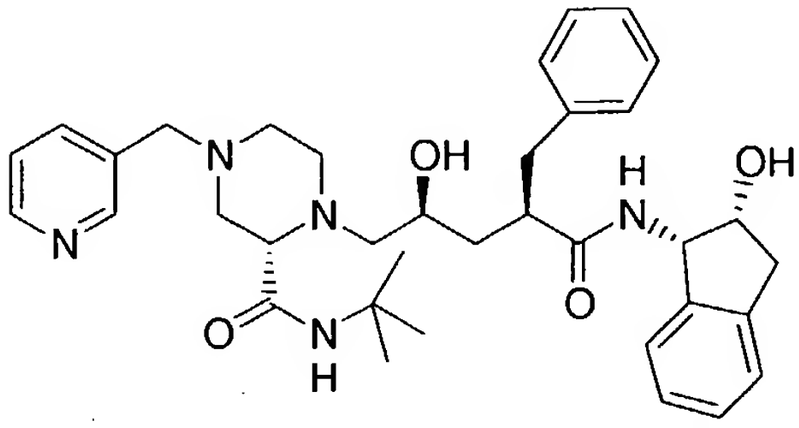
Formula II

(c) a compound of Formula III



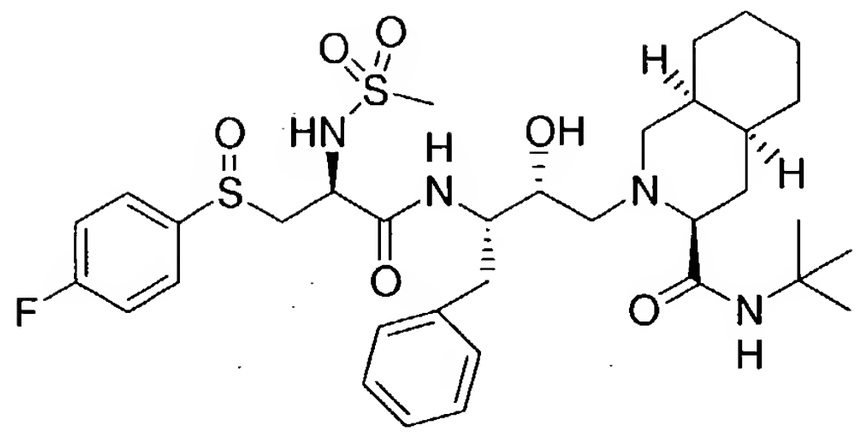
Formula III

(d) a compound of Formula IV



Formula IV

(e) a compound of formula V



Formula V

(f) a pharmaceutically acceptable salt of a compound of Formula I, Formula II, Formula III, Formula IV, or Formula V;

(g) a prodrug of a compound of Formula I, Formula II, Formula III, Formula IV, or Formula V.

37. The method of claim 36, wherein the composition comprises a compound of Formula I, a pharmaceutically acceptable salt of a compound of Formula I, or a prodrug of a compound of Formula I.

38. The method of claim 37, wherein the composition excludes a compound of Formula II, excludes a compound of Formula III, excludes a compound of Formula IV, excludes a compound of Formula V, and excludes pharmaceutically acceptable salts or prodrugs of Formula II, Formula III, Formula IV, or Formula V.

39. The method of claim 36, wherein the composition comprises a compound of Formula I or a pharmaceutically acceptable salt or prodrug thereof and a compound of Formula II or a pharmaceutically acceptable salt or prodrug thereof.

40. The method of claim 39, wherein the amount, by weight, of the compound of Formula II or a pharmaceutically acceptable salt or prodrug thereof is approximately four times greater than the amount, by weight, of the compound of Formula I or a pharmaceutically acceptable salt or prodrug thereof.

41. The method of claim 36, wherein the composition comprises a compound of Formula III, a pharmaceutically acceptable salt of a compound of Formula III, or a prodrug of a compound of Formula III.

42. The method of claim 41, wherein the composition excludes a compound of Formula I, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula II, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula IV, or a pharmaceutically acceptable salt or prodrug thereof, and excludes a compound of Formula V, or a pharmaceutically acceptable salt or prodrug thereof.

43. The method of claim 36, wherein the composition comprises a compound of Formula IV, a pharmaceutically acceptable salt of a compound of Formula IV or a prodrug of a compound of Formula IV.

44. The method of claim 43, wherein the composition excludes a compound of Formula I, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula II, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula III, or a pharmaceutically acceptable salt or prodrug thereof, and excludes a compound of Formula V, or a pharmaceutically acceptable salt or prodrug thereof.

45. The method of claim 36, wherein the composition comprises a compound of Formula V, a pharmaceutically acceptable salt of a compound of Formula IV or a prodrug of a compound of Formula V.

46. The method of claim 45, wherein the composition excludes a compound of Formula I, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula II, or a pharmaceutically acceptable salt or prodrug thereof, excludes a compound of Formula III, or a pharmaceutically acceptable salt or prodrug thereof, and excludes a compound of Formula IV, or a pharmaceutically acceptable salt or prodrug thereof.

47. The method of claim 36, wherein the composition further comprises a carrier, excipient, or diluent.

48. The method of claim 39, wherein the carrier, excipient, or diluent is a physiologically acceptable saline solution.

49. The method of claim 36, wherein the composition is tested in conjunction with a pain relief agent, an antinausea agent, an anticancer agent other than ritonavir, lopinavir, or amprenavir, an inhibitor of P-glycoprotein, an inhibitor of an EGF receptor, or a proteasome inhibitor.

50. The method of claim 30, wherein the cancer is a pancreatic cancer, a lung cancer, a breast cancer, a head and neck cancer, a prostate cancer, a colon cancer, a stomach cancer, an ovarian cancer, or a brain cancer.

51. The method of claim 30, wherein the cancer is associated with resistance to known anticancer drug regimes.

52. The method of claim 30, wherein the cancer comprises cells that express a P-glycoprotein (MDR), a multidrug resistance-associated protein (MRP), or a breast cancer resistance protein (BCRP).

53. The method of claim 30, wherein the level of m-calpain or the level of an EGF receptor is measured by assessing m-calpain or EGF receptor mRNA, respectively.

54. The method of claim 31, wherein the level of m-calpain or the level of an EGF receptor is measured by assessing m-calpain or EGF receptor mRNA, respectively.

55. The method of claim 30, wherein the level of m-calpain or the level of an EGF receptor is measured by assessing m-calpain or EGF receptor protein, respectively.

56 The method of claim 31, wherein the level of m-calpain or the level of an EGF receptor is measured by assessing m-calpain or EGF receptor protein, respectively.

57 A method of treating an HIV-negative patient who has cancer comprising administering to the patient a therapeutically effective amount of a composition comprising a compound of Formula I or a pharamaceutically acceptable salt or prodrug thereof, and a proteasome inhibitor.

58 The method of claim 57 wherein the proteasome inhibitor is bortezomib.

59 A method of treating an HIV-negative patient who has cancer comprising administering to the patient a therapeutically effective amount of a composition comprising a compound of Formula I or a pharamaceutically acceptable salt or prodrug thereof, and a Cox-2 inhibitor.

60 A method of treating an HIV-negative patient who has cancer comprising administering to the patient a therapeutically effective amount of a composition comprising a compound of Formula I or a pharamaceutically acceptable salt or prodrug thereof, and docetaxel.